IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Currently Amended) A data transmission controlling method for controlling transmission of data from data transmitting means to data receiving means over ~~at least first and second~~ communication channels, said data transmission controlling method comprising the steps of:

transmitting encrypted data, encrypted by said data transmitting means, to said data receiving means over ~~said~~ a first communication channel provided for data transmission from said data transmitting means to said data receiving means;

~~wherein prior to transmitting said encrypted data over said first communication channel, said data transmitting means encapsulates data to be transmitted from said data transmitting means to data receiving means into data capsules in accordance with a first protocol and a second protocol;~~

~~wherein said data to be transmitted is first encapsulated in accordance with said first protocol and further encapsulated in accordance with said second protocol;~~

~~wherein at least one of said data capsules resulting from the encapsulation is encrypted; and~~

~~wherein said data transmitting means supplements an encrypted data section with a section header containing destination address information; and~~

transmitting to said data receiving means restrictive data transmission control information for causing the encrypted data to be received solely by specific data receiving means at least ~~to said data receiving means~~ over ~~said~~ a second communication channel which, having a smaller capacity of data transmission than said first communication channel, ~~said second communication channel including communication channels installed independently of said first communication channel~~ is also used for data transmission from said data receiving means to said data transmitting means; and

requesting for said restrictive data transmission control information by said data receiving means when a new data receiving means is added to said communication channels, where said data receiving means having been put out of service and recovered from a failure rejoins said communication channels or when said data receiving means has failed to receive said restrictive data transmission control information.

~~wherein said restrictive data transmission control information transmitted over said second communication channel is operating to allow only intended data receiving means to receive the encrypted data, and is configured to substantially simplify decryption of the encrypted data transmitted over said first communication channel.~~

2. (Previously Presented) The data transmission controlling method according to claim 1, wherein said second communication channel is a communication channel permitting bidirectional communication between said data transmitting means and said data receiving means.

3. (Previously Presented) The data transmission controlling method according to claim 1, wherein said data transmitting means performs data encryption using an encryption key and wherein said encrypted data from said data transmitting means are decrypted by said data receiving means utilizing a decryption key identical to said encryption key used in the data encryption.

4. (Previously Presented) The data transmission controlling method according to claim 3, wherein said encryption key and said decryption key are session keys for encrypting and decrypting information and data.

5. (Previously Presented) The data transmission controlling method according to claim 4, wherein said session keys are updated at predetermined intervals.

6. (Previously Presented) The data transmission controlling method according to claim 4, wherein said data transmitting means and said data receiving means have a master key specific to said data receiving means;

wherein said data transmitting means encrypts said session keys using said master key and transmits the encrypted session keys to said data receiving means over either said first communication channel or said second communication channel; and

wherein said data receiving means decrypts said encrypted session keys received using said master key.

7. (Previously Presented) The data transmission controlling method according to claim 6, wherein said data transmitting means possesses said session keys corresponding to all data receiving means authorized to receive specific information and data; and

wherein said data transmitting means transmits in advance said session keys to said data receiving means authorized to receive specific information and data.

8. (Previously Presented) The data transmission controlling method according to claim 1, wherein said first communication channel is a satellite link permitting unidirectional communication from said data transmitting means to said data receiving means; and

wherein said second communication channel is a communication channel permitting bidirectional communication between said data transmitting means and said data receiving means.

9. (Previously Presented) The data transmission controlling method according to claim 1, wherein said data receiving means is constituted as an IP router.

10. (Previously Presented) The data transmission controlling method according to claim 1, wherein said data receiving means is constituted as a bridge.

11. (Currently Amended) A data transmission system comprising:

data transmitting means for encrypting and transmitting data;

data receiving means for receiving said encrypted data from said data transmitting means;

a first communication channel used to transmit said encrypted data from said data transmitting means to said data receiving means;

~~wherein prior to transmitting said encrypted data over said first communication channel, said data transmitting means encapsulates data to be transmitted from said data transmitting means to data receiving means into data capsules in accordance with a first protocol and a second protocol;~~

~~wherein said data to be transmitted is first encapsulated in accordance with said first protocol and further encapsulated in accordance with said second protocol;~~

~~wherein at least one of said data capsules resulting from the encapsulation is encrypted; and~~

~~wherein said data transmitting means supplements an encrypted data section with a section header containing destination address information; and~~

a second communication channel having a smaller capacity of data transmission than said first communication channel, said second communication channel used to transmit to said data receiving means, restrictive data transmission control information ~~to said data receiving means~~ for causing the encrypted data to be received solely by specific data receiving means and said second communication channel also being used for data transmission from said data receiving means to said data transmitting means ~~including communication channels installed independently of said first communication channel~~;

wherein said data receiving means requests said restrictive data transmission control information when a new data receiving means is added to said communication channels, where said data receiving means having been put out of service and recovered from a failure rejoins said communication channels or when said data receiving means has failed to receive said restrictive data transmission control information.

~~wherein said restrictive data transmission control information transmitted over said second communication channel is operating to allow only intended data receiving means to receive said encrypted data, and is configured to substantially simplify decryption of said encrypted data transmitted over said first communication channel.~~

12. (Previously Presented) The data transmission system according to claim 11, wherein said data transmitting means performs data encryption using an encryption key and wherein said encrypted data from said data transmitting means are decrypted by said data receiving means utilizing a decryption key identical to said encryption key used in the data encryption.

13. (Previously Presented) The data transmission system according to claim 12, wherein said encryption key and said decryption key are session keys for encrypting and decrypting information and data.

14. (Previously Presented) The data transmission system according to claim 13, wherein said session keys are updated at predetermined intervals.

15. (Previously Presented) The data transmission system according to claim 13, wherein said data transmitting means and said data receiving means have a master key specific to said data receiving means;

wherein said data transmitting means encrypts said session keys using said master key and transmits the encrypted session keys to said data receiving means over either said first communication channel or said second communication channel; and

wherein said data receiving means decrypts said encrypted session keys received using said master key.

16. (Previously Presented) The data transmission system according to claim 15, wherein said data transmitting means possesses said session keys corresponding to all data receiving means authorized to receive specific information and data; and

wherein said data transmitting means transmits in advance said session keys to said data receiving means authorized to receive specific information and data.

17. (Previously Presented) The data transmission system according to claim 11, wherein said first communication channel is a satellite link permitting unidirectional communication from said data transmitting means to said data receiving means.

18. (Previously Presented) The data transmission system according to claim 11, wherein said data receiving means is constituted as an IP router.

19. (Previously Presented) The data transmission system according to claim 11, wherein said data receiving means is constituted as a bridge.